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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/822,684 | 03/30/2001 | David I. Poisner | 42390P10577 | 9233 |

8791 7590 08/11/2005

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EXAMINER

CHEN, TSE W

ART UNIT PAPER NUMBER

2116

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/822,684

Applicant(s)

POISNER ET AL.

Examiner

Tse Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 13-20 and 25-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8, 13-17, 20 and 25-29 is/are rejected.
- 7) ☒ Claim(s) 6, 7, 18, 19 and 30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 27, 2005 has been entered.
2. Claims 1-8, 13-20, and 25-30 are presented for examination. Applicant has canceled claims 9-12, 21-24, and 31-34.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Re Claims 1 and 13

4. Claims 1 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wydall et al., US Patent 6117186, hereinafter Wydall, in view of Cromer et al., US Patent 6094720, hereinafter Cromer.
5. In re claim 1, Wydall discloses a method [col.7, ll.11-23] comprising:
 - Configuring a mode [auto insert notification].
 - Detecting insertion of a medium into a drive [cdrom] based on the mode.

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- Starting a program [autorun.inf] on the medium when the insertion is detected.
6. Wydall did not disclose explicitly a configuration map stored in a non-volatile memory.
 7. Cromer discloses a method comprising configuring a mode [configuration mode] in a configuration map [values mapped to the configuration in the broadest interpretation] stored in a non-volatile memory [nvram] during boot up [col.5, ll.1-13; col.8, l.59 – col.9, l.7].
 8. It would have been obvious to one of ordinary skill in the art, having the teachings of Wydall and Cromer before him at the time the invention was made, to incorporate the teachings of Cromer with the system disclosed by Wydall, as the non-volatile memory for storing a configuration map as taught by Cromer is a very well known concept for use with any configurable system. One of ordinary skill in the art would have been motivated to make such a combination as it provides a very well known way to store configuration data in a non-volatile environment [Cromer: col.5, ll.1-13].
 9. The Examiner has taken Official Notice that it is well known in the art to store and utilize a mode indicator in machine word format for processing efficiency.
 10. Wydall and Cromer disclose each and every limitation of the claim, except that the mode is a word. However, mode indicators like other binary information are prevalently stored and utilized in machine word format for processing efficiency. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize mode words in the system disclosed by Wydall and Cromer. One of ordinary skill in the art would have been motivated to make such a combination because of processing efficiency.
 11. As to claim 13, Wydall and Cromer disclose the method as discussed above in reference to claim 1. Furthermore, Wydall discloses the computer program product comprising a machine

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useable medium [hard disk 8] having computer program code [operating system] embedded therein, the computer program product having computer readable program code to perform the method [col.5, 1.55 – col.6, 1.7].

Re Claims 2 and 14

12. Claims 2 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wydall and Cromer as applied to claims 1 and 13 above, and further in view of non-patent material message-ID <marnoldDzIG2w.MqJ@netcom.com> submitted by Matt Arnold to newsgroup comp.os.ms-windows.programmer.misc, hereinafter Arnold.

13. Wydall and Cromer disclose each and every limitation of the claim as discussed above in reference to claims 1 and 13. Wydall and Cromer did not disclose explicitly configuring the mode word in one of multiple modes.

14. Arnold discloses a method comprising configuring a mode word in one of first, second, third, and fourth mode [e.g., DRIVE_REMOVABLE, DRIVE_REMOTE, DRIVE_CDROM, DRIVE_RAMDISK].

15. It would have been obvious to one of ordinary skill in the art, having the teachings of Wydall, Cromer and Arnold before him at the time the invention was made, to use the multiple modes word disclosed by Arnold for the system disclosed by Wydall and Cromer as the multiple modes word taught by Arnold is a well known concept for use with any system with multiple modes. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way to indicate multiple different modes [Arnold].

Re Claims 3 and 15

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16. Claims 3 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wydall, Cromer and Arnold as applied to claims 2 and 14 above, and further in view of non-patent material message-ID <01bda103\$140c82e0\$4ffk4ecl@pluto> submitted by Homecooking to newsgroup comp.publish.cdrom.hardware, hereinafter Homecooking.

17. Wydall, Cromer and Arnold disclose each and every limitation of the claim as discussed above in reference to claim 1. Wydall, Cromer and Arnold did not disclose explicitly periodically polling the drive.

18. Homecooking discloses a method wherein detecting the insertion comprises periodically polling [query] the drive when the mode word is configured in the first mode [auto insert notification] [detecting insertion automatically via querying inherently involves periodic timing as system does not know the exact time to query for insertion].

19. It would have been obvious to one of ordinary skill in the art, having the teachings of Wydall, Cromer Arnold and Homecooking before him at the time the invention was made, to use the teachings of Homecooking as the periodic polling feature is a well-known feature for use with the system of Wydall, Cromer and Arnold. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way to detect the insertion of a medium [Homecooking].

Re Claims 4 and 16

20. Claims 4 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wydall, Cromer and Arnold as applied to claims 2 and 14 above, and further in view of McGee et al., US 5528566, hereinafter McGee, and Pletcher et al., US Patent 5694606, hereinafter Pletcher.

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21. Wydall, Cromer and Arnold disclose each and every limitation of the claim as discussed above in reference to claims 2 and 14. Wydall, Cromer and Arnold did not disclose explicitly servicing an interrupt indicating the insertion of the medium when the mode is configured in one of multiple modes.

22. Regarding an interrupt indicating the insertion of the medium, McGee discloses a method wherein detecting the insertion comprises servicing an interrupt indicating the insertion of the medium [optical disc] [col.9, l.63 – col.10, l.19].

23. It would have been obvious to one of ordinary skill in the art, having the teachings of Wydall, Cromer, Arnold and McGee before him at the time the invention was made, to use the interrupt indicating the insertion of the medium as disclosed by McGee for the system disclosed by Wydall, Cromer and Arnold as the interrupt taught by McGee is a well known concept for use with the system of Wydall, Cromer, Arnold. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way to indicate the insertion of the medium.

24. Regarding servicing an interrupt in one of the multiple modes, Pletcher discloses the method that comprises servicing an interrupt when the mode is configured in one of multiple modes [processor modes] [col.4, ll.41 –58].

25. It would have been obvious to one of ordinary skill in the art, having the teachings of Wydall, Cromer, Arnold, McGee and Pletcher before him at the time the invention was made, to include the teachings of Pletcher with the system disclosed by Wydall, Cromer, Arnold and McGee to provide the method wherein detecting the insertion comprises servicing an interrupt indicating the insertion of the medium when the mode is configured in one of a second, third,

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and fourth modes. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way to reduce interrupt handling overhead [Pletcher: col.4, ll.31-38].

Re Claims 5 and 17

26. Claims 5 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wydall, Cromer, McGee, Pletcher and Arnold as applied to claims 4 and 14 above, and further in view Benhase et al., US Patent 5463752, hereinafter Benhase.

27. Wydall, Cromer, McGee, Pletcher and Arnold disclose each and every limitation of the claim as discussed above in reference to claims 4 and 14. McGee discloses a polling circuit [optical sensor] detecting the insertion of the medium [disc] [col.9, l.63 – col.10, l.19; col.15, ll.39-57]. Wydall, Cromer, McGee, Pletcher and Arnold did not discuss the details of the polling circuit.

28. Benhase discloses a method wherein servicing an interrupt comprises servicing the interrupt [signal] generated by a polling circuit in a chipset [independent polling means] [col.4, ll.24-32; col.4, l.50 – col.5, l.8].

29. It would have been obvious to one of ordinary skill in the art, having the teachings of Wydall, Cromer, McGee, Pletcher, Arnold and Benhase before him at the time the invention was made, to include the teachings of Benhase with the system disclosed by Wydall, Cromer, McGee, Pletcher and Arnold to provide the method wherein servicing the interrupt comprises servicing the interrupt generated by a polling circuit in a chipset when the mode is configured in one of a second and third modes, the polling circuit detecting the insertion of the medium. One of ordinary skill in the art would have been motivated to make such a combination as it provides

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a way to detect the insertion of the medium [McGee: col.9, l.63 – col.10, l.19] and free up some processor time for other activities [Benhase: col.2, ll.31-38].

Re Claims 8 and 20

30. Claims 8 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wydall, Cromer, Arnold, McGee and Pletcher as applied to claim 4 and 16 above, and further in view of Hoffman et al., US 5414858, hereinafter Hoffman.

31. Wydall, Cromer, Arnold, McGee and Pletcher disclose each and every limitation of the claim as discussed above in reference to claim 4 and 16. Wydall, Cromer, Arnold, McGee and Pletcher did not discuss servicing the interrupt generated by the drive.

32. Hoffman discloses a method wherein servicing an interrupt comprises servicing an interrupt generated by a drive [device] [fig.3].

33. It would have been obvious to one of ordinary skill in the art, having the teachings of Hoffman, Wydall, Cromer, Arnold, McGee and Pletcher before him at the time the invention was made, to include the teachings of Hoffman with the system disclosed by Wydall, Cromer, Arnold, McGee and Pletcher to provide the method of claim 4 wherein servicing the interrupt comprises servicing the interrupt generated by the drive. One of ordinary skill in the art would have been motivated to make such a combination as it provides an efficient way to operate a system with peripheral devices by utilizing multiple modes based on interrupt and polling mechanisms [Hoffman: col.2, ll.1-12; set mode to either interrupt or polling to match the expected latency in order to increase efficiency].

Re Claim 25

34. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wydall and Cromer as applied to claim 1 above, and further in view of Sarkarda, US Patent 6189050.

35. Wydall and Cromer disclose each and every limitation of the claim as discussed above in reference to claim 1. In particular, Wydall discloses a system [fig. 1] comprising:

- A processor [4].
- A memory [disk 8] coupled to the processor to store instruction code [operating system], the instruction code, when executed by the processor, causing the processor to execute the method discussed above in reference to claim 1 [col.5, l.55 – col.6, l.7].

36. Wydall and Cromer did not discuss a chipset to control the drive.

37. Sarkarda discloses a system [100] comprising:

- A chipset [pci/ide bus controller] coupled to the processor to control a drive [floppy disk device 112] [col.5, ll.11-24].

38. It would have been obvious to one of ordinary skill in the art, having the teachings of Wydall, Cromer and Sarkada before him at the time the invention was made, to include the teachings of Sarkada with the system disclosed by Wydall and Cromer to provide the system of claim 25. One of ordinary skill in the art would have been motivated to make such a combination as it provides an efficient way to detect an insertion of a medium and take appropriate actions in response to the detection [Sarkarda: col.4, ll.52-65; Sarkarda would increase the efficiency of Wydall with a separate control chip to service the drive].

Re Claim 26

39. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wydall, Cromer and Sarkada as applied to claim 25 above, and further in view of Arnold.

40. Wydall, Cromer and Sarkada disclose each and every limitation of the claim as discussed above in reference to claim 25. Wydall, Cromer and Sarkada did not disclose explicitly configuring the mode word in one of multiple modes.

41. Arnold discloses a method comprising configuring a mode word in one of first, second, third, and fourth mode [e.g., DRIVE_REMOVABLE, DRIVE_REMOTE, DRIVE_CDROM, DRIVE_RAMDISK].

42. It would have been obvious to one of ordinary skill in the art, having the teachings of Wydall, Cromer, Sarkada and Arnold before him at the time the invention was made, to use the multiple modes word disclosed by Arnold for system disclosed by Wydall, Cromer and Sarkada as the multiple modes word taught by Arnold is a well known concept for use with any system with multiple modes. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way to indicate multiple different modes [Arnold].

Re Claim 27

43. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wydall, Cromer, Arnold and Sarkada as applied to claim 26 above, and further in view of Homecooking.

44. Wydall, Cromer, Arnold and Sarkada disclose each and every limitation of the claim as discussed above in reference to claim 26. Wydall, Cromer, Arnold and Sarkada did not disclose explicitly periodically polling the drive.

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45. Homecooking discloses a method wherein detecting the insertion comprises periodically polling [query] the drive when the mode word is configured in the first mode [auto insert notification].

46. It would have been obvious to one of ordinary skill in the art, having the teachings of Wydall, Cromer, Arnold, Sarkada and Homecooking before him at the time the invention was made, to use the teachings of Homecooking as the periodic polling feature is a well-known feature for use with the system of Wydall, Cromer, Arnold and Sarkada. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way to detect the insertion of a medium [Homecooking].

Re Claim 28

47. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wydall, Cromer, Sarkada, and Arnold as applied to claim 26 above, and further in view of McGee and Pletcher.

48. Wydall, Cromer, Sarkada, and Arnold disclose each and every limitation of the claim as discussed above in reference to claim 26. Wydall, Cromer, Sarkada, and Arnold did not disclose explicitly servicing an interrupt indicating the insertion of the medium when the mode is configured in one of multiple modes.

49. Regarding an interrupt indicating the insertion of the medium, McGee discloses a method wherein detecting the insertion comprises servicing an interrupt indicating the insertion of the medium [optical disc] [col.9, l.63 – col.10, l.19].

50. It would have been obvious to one of ordinary skill in the art, having the teachings of Wydall, Cromer, Sarkada, Arnold and McGee before him at the time the invention was made, to use the interrupt indicating the insertion of the medium as disclosed by McGee for the system

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disclosed by Wydall, Cromer, Sarkada, and Arnold as the interrupt taught by McGee is a well known concept for use with the system of Wydall, Cromer, Sarkada, and Arnold. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way to indicate the insertion of the medium.

51. Regarding servicing an interrupt in one of the multiple modes, Pletcher discloses the method that comprises servicing an interrupt when the mode is configured in one of multiple modes [processor modes] [col.4, ll.41 –58].

52. It would have been obvious to one of ordinary skill in the art, having the teachings of Wydall, Cromer, Sarkada, Arnold, McGee and Pletcher before him at the time the invention was made, to include the teachings of Pletcher with the system disclosed by Wydall, Cromer, Sarkada, Arnold and McGee to provide the method wherein detecting the insertion comprises servicing an interrupt indicating the insertion of the medium when the mode is configured in one of a second, third, and fourth modes. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way to reduce interrupt handling overhead [Pletcher: col.4, ll.31-38]

Re Claim 29

53. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wydall, Cromer, Sarkada, Arnold, McGee and Pletcher as applied to claim 28 above, and further in view of Benhase.

54. Wydall, Cromer, Sarkada, Arnold, McGee and Pletcher disclose each and every limitation of the claim as discussed above in reference to claims 28. McGee discloses a polling circuit [optical sensor] detecting the insertion of the medium [disc] [col.9, l.63 – col.10, l.19;

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col.15, ll.39-57]. Wydall, Cromer, Sarkada, Arnold, McGee and Pletcher did not discuss the details of a polling circuit.

55. Benhase discloses a method wherein servicing an interrupt comprises servicing the interrupt [signal] generated by a polling circuit in a chipset [independent polling means] [col.4, ll.24-32; col.4, l.50 – col.5, l.8].

56. It would have been obvious to one of ordinary skill in the art, having the teachings of Wydall, Cromer, Sarkada, Arnold, McGee, Pletcher and Benhase before him at the time the invention was made, to include the teachings of Benhase with the system disclosed by Wydall, Cromer, Sarkada, Arnold, McGee and Pletcher to provide the method wherein servicing the interrupt comprises servicing the interrupt generated by a polling circuit in a chipset when the mode is configured in one of a second and third modes, the polling circuit detecting the insertion of the medium. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way to detect the insertion of the medium [McGee: col.9, l.63 – col.10, l.19] and free up some processor time for other activities [Benhase: col.2, ll.31-38].

Allowable Subject Matter

57. Claims 6-7, 18-19 and 30 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

58. The following is a statement of reasons for the indication of allowable subject matter: the claims may be allowable because none of the references cited, either alone or in combination discloses or renders obvious a method of claim 5, a computer program product of claim 17, and a system of claim 29, wherein “servicing the interrupt comprises checking a status bit set by the

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polling circuit when the mode is configured in the second mode, updating a flag in a memory based on the status bit, and responding to a poll request by an operating system”.

Response to Arguments

59. Applicant's arguments filed May 27, 2005 have been considered but are moot in view of the new ground(s) of rejection.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tse Chen whose telephone number is (571) 272-3672. The examiner can normally be reached on Monday - Friday 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (571) 272-3670. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tse Chen
July 27, 2005


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